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REMARKS

The Official Action issued on September 27, 2006, maintains the previously issued rejection of claims 1, 12 and 23 to 31 as obvious under 35 U.S.C. §103(a) in view of U.S. Patent Appln. Publn. No. 2004/0209705 by Rajagopalan et al. (hereinafter "Rajagopalan"). Applicant respectfully traverses this rejection. The facts and reasoning submitted previously in the prosecution are neither withdrawn nor abandoned.

In response, Applicant first acknowledges with gratitude the statements in the Official Action that several indicia of patentability have been demonstrated on the record.

The Official Action, however, has also repeated the previous request for evidence of the criticality of the claimed composition range and of unexpected results. Official Action of September 27, 2006, on page 3; Official Action of March 9, 2006, on page 3.

Applicant's Response filed on July 10, 2006, at pages 8 and 9, includes evidence of unexpected results and of the criticality of the claimed range that is believed to be sufficient to overcome any *prima facie* case of obviousness based on Rajagopalan. At the Examiner's request, however, Applicant will provide a more detailed discussion of these points.

The data in Table 4 on page 23 of the specification are believed to demonstrate unexpected results, insofar as they demonstrate that thirteen different examples of the invention perform significantly better than "premium" polyurethane golf ball covers in a test of scuff resistance. Applicant recognizes that the polyurethane is not among the specifically recited components of the claimed invention. Nevertheless, the superiority of the claimed invention to a material that is a current industry standard is a valid secondary consideration that must be considered in the examination of the application. M.P.E.P. at § 2141(I).

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For further evidence of unexpected superior results, the Examiner's attention is respectfully directed once more to U.S. Patent No. 6,562,906, which shares inventorship and ownership with the present application. The '906 patent describes bimodal compositions similar to those claimed herein and demonstrates that golf balls using the claimed blends have other surprising properties that are at odds with the conventional wisdom with respect to the effect of molecular weight of polymeric components on golf ball properties.

In addition, the Comparative Examples in this patent are neat ionomers, and the Examples of the invention are those same ionomers blended with low molecular weight ethylene acid copolymer "waxes." Numerous Examples and Comparative Examples are set forth in columns 8 through 12 of the '906 patent.

In particular, the acid content of the low molecular weight "waxes" in the working Examples is 5, 10 or 15 wt%, and their molecular weight (Mw) ranges from 5200 to 26,000 D. Column 8 at lines 43 to 49. The ionomers in the working Examples have an acid content of from 8.3 to 19 wt%, a softening copolymer content of from 0 to 23.5 wt%, and a neutralization range of from 37% to 75%. Column 8 at lines 52 to 60; column 9 at line 17, *inter alia*. The post-neutralization melt indices of the neat ionomers range from 1 (column 9 at line 17) to 10 (column 9 at line 55), which spans a whole order of magnitude in viscosity, and, approximately, also in molecular weight. Thus, Applicant respectfully submits that the data in the '906 patent demonstrate that the unexpected results are adequate in breadth to support the claimed ranges of these features.

Applicant has discovered that the golf balls made from the specifically recited bimodal compositions are characterized by higher resilience than conventional balls using conventional ionomer blends; higher heat stability, i.e., lower melt index vs. conventional ionomers; lower creep than conventional balls; and less of a dependence of resiliency on impact speed, that is, less of an

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increase in COR as impact speed decreases. Experimental results that support these characterizations are found throughout the '906 patent, for example at the locations indicated in the following table.

Table

Property	Experimental Data
Higher resilience	Column 9 at lines 12 to 21, column 10 at lines 10 to 35, column 11 at line 55 to column 12 at line 6.
Higher heat stability	Column 9 at lines 12 to 21, column 10 at lines 10 to 35, column 11 at line 55 to column 12 at line 6.
Lower creep than conventional balls	Column 12 at lines 49 to 65
Lower increase in COR as impact speed decreases	Column 10 at line 64 through column 11 at line 26; FIGS. 1 through 9.

Aside from the fact of these improvements and their magnitude, Applicant respectfully submits that these experimental results are also counterintuitive. This is because, in general, one of skill in the art would expect that lowering the average molecular weight of the polymers would result in golf balls having decreased scuff resistance, less resilience, higher melt indices, and so forth.

To reiterate, Applicant believes that the foregoing evidence is sufficient to overcome any *prima facie* case of the obviousness of claim 1 based on Rajagolapan. Consequently, Applicant respectfully requests that the rejection of claim 1 under 35 U.S.C. § 103 be withdrawn upon reconsideration.

In this connection, independent claim 12 includes the compositional and property features of claim 1. It follows by logic, then, that claim 12 is also not obvious for at least the same reasons as claim 1. Claims 23 to 31 depend from

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claim 1; therefore, by statute, claims 23 to 31 are also not obvious for at least the same reasons as claim 1. Consequently, Applicant further respectfully requests that the rejection of claims 12 and 23 to 31 under 35 U.S.C. § 103 be withdrawn upon reconsideration.

Restriction Requirement

In an Official Action dated July 23, 2004, restriction was required between the following two groups of claims:

- I. Claims 1 to 12, directed to a golf ball cover and a method of making a golf ball cover; and
- II. Claims 13 to 22, directed to a one-piece golf ball and a method of making a one-piece golf ball.

In response, Applicant elected Group I for examination, with traverse. Response filed August 23, 2004.

Applicant now respectfully renews the request that this requirement for restriction be withdrawn upon reconsideration. As is stated in the M.P.E.P. at § 803, restriction may only be required between inventions that are either independent or distinct. According to the M.P.E.P. at § 802.01, "[t]he term 'independent' (i.e., unrelated) means that there is no disclosed relationship between the two or more inventions claimed, that is, they are unconnected in design, operation, and effect." [Editorial marks removed.] Furthermore, "[r]elated inventions are distinct if the inventions as claimed are not connected in at least one of design, operation, or effect ..." [Id., emphasis in original.]

Applicant respectfully submits that there is indeed a disclosed relationship between the golf ball cover of claim 1 and the one-piece golf ball of claim 13. Moreover, the golf ball cover of claim 1 is connected to the one-piece golf ball of claim 13, at least by design. Specifically, both the one-piece golf ball and the golf ball cover share the design feature of a thermoplastic composition comprising a

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polymer blend with a bimodal molecular weight distribution. This design feature is specifically recited in claims 1 and 13. Therefore, the inventions of claim 1 and claim 13 are neither independent nor distinct, and restriction between them is not proper.

Moreover, it is well established that when "the search and examination of all the claims in an application can be made without serious burden, the examiner must examine them on the merits, even though they include claims to independent or distinct inventions." [M.P.E.P. § 803; *emphasis supplied; editorial marks removed.*] The M.P.E.P. continues at § 808.02, "[w]here, however, the classification is the same and the field of search is the same and there is no clear indication of separate future classification and field of search, no reasons exist for dividing among independent or related inventions."

According to the restriction requirement issued on July 23, 2004, the subject matter of claims 1 to 12 and that of claims 13 to 22 are both classified in class 473, in subclasses that pertain to the game of golf. Thus, the classifications and the fields of search are substantially the same for these two groups of claims. Also, the intervening Official Actions have provided no indication that the classification or field of search of these inventions has changed or will change. Therefore, Applicant respectfully submits that the additional burden of examination does not rise to a level of seriousness that would justify a restriction requirement between these two embodiments of the invention.

Consequently, Applicant respectfully requests that claims 13 through 22 be rejoined with claims 1 through 12 and 23 through 31 for examination.
M.P.E.P. § 821.04.

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Conclusion

A Petition for an Extension of Time for two months and the required fee for the extension are filed concurrently herewith. Should any further fee be required in connection with the present response, the Examiner is authorized to charge such fee to Deposit Account No. 04-1928 (E.I. du Pont de Nemours and Company).

In view of the above remarks, it is believed that all claims are in condition for allowance, and such action is respectfully requested. In closing, the Examiner is invited to contact the undersigned by telephone to conduct any business that may advance the prosecution of the present application.

Respectfully submitted,



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Dated: February 27, 2007